

From: [Anderson-Carnahan, Linda](#)
To: [Bachman, Brenda](#); [Dodo, Gerald](#); [Shephard, Burt](#); [Brown, Donald M.](#); [Adams, Katie](#); [Wu, Raymond](#)
Cc: [Young, Margo](#); [McBride, Theresa](#); [Le, Stephanie](#); [Billings, Melissa](#); [Pepich, Barry](#)
Subject: RE: Draft Discovery Bay QAPP
Date: Thursday, April 06, 2017 11:27:00 AM

I think it's ok for the shell analysis work to lag – it's certainly not a top priority and I would be happy to convey that to Mr. Madsen. The objective here is to be able to look at the metal content in normal Discovery Bay pacific oyster shells and compare it to the metal content in the deformed Discovery Bay pacific oyster shells to see if there is statistically significant difference. This could point to why there is a die off in the oysters.

We still need to collect normal ('undeformed') reference shells from Discovery Bay for comparison. I'm not sure it's critical to achieve CLP metal detection levels given the potential for matrix interference but if Burt has data suggesting normal ranges of metals in oyster shells, it would be good to at least be able to get down to those levels. Burt, since you have this data, can you please look into the method(s) used to come up with this data and it with the Lab?

Thanks

Linda Anderson-Carnahan, Associate Director
Office of Environmental Review and Assessment
US EPA Region 10, OERA-140, Suite 900
1200 Sixth Ave, Seattle, Wa. 98101
phone: (206) 553-2601
cell: (206) 291-6879

From: Bachman, Brenda
Sent: Thursday, April 06, 2017 11:07 AM
To: Dodo, Gerald <Dodo.Gerald@epa.gov>; Shephard, Burt <Shephard.Burt@epa.gov>; Brown, Donald M. <Brown.DonaldM@epa.gov>; Adams, Katie <Adams.Katie@epa.gov>; Wu, Raymond <Wu.Raymond@epa.gov>
Cc: Young, Margo <Young.Margo@epa.gov>; McBride, Theresa <McBride.Theresa@epa.gov>; Le, Stephanie <Le.Stephanie@epa.gov>; Billings, Melissa <Billings.Melissa@epa.gov>; Pepich, Barry <Pepich.Barry@epa.gov>; Anderson-Carnahan, Linda <Anderson-Carnahan.Linda@epa.gov>
Subject: RE: Draft Discovery Bay QAPP

Hi Gerald,

- 1) Understand the time dilemma- have cc'd Linda here. May be that additional discussion is warranted.
- 2) Yes, we should analyze the shells if the oyster larvae are not affected by the DB water.
- 3) I have additional changes to the QAPP introduction, so please don't focus your review on that part.

Thanks, Brenda

From: Dodo, Gerald

Sent: Thursday, April 06, 2017 11:01 AM

To: Shephard, Burt <Shephard.Burt@epa.gov>; Bachman, Brenda <bachman.brenda@epa.gov>; Brown, Donald M. <Brown.DonaldM@epa.gov>; Adams, Katie <Adams.Katie@epa.gov>; Wu, Raymond <Wu.Raymond@epa.gov>

Cc: Young, Margo <Young.Margo@epa.gov>; McBride, Theresa <McBride.Theresa@epa.gov>; Le, Stephanie <Le.Stephanie@epa.gov>; Billings, Melissa <Billings.Melissa@epa.gov>; Pepich, Barry <Pepich.Barry@epa.gov>

Subject: RE: Draft Discovery Bay QAPP

Katie is out of the office today so will have to get back to you later on how we would want sections 3.4.1 and 3.4.2 to look like. We'll try to get you something tomorrow. I should point out that time is an issue for the lab right now with the workload in-house, commitments to programs and more coming. It may not be practical to get too ambitious with reporting limit goals which could increase time for development and analysis. Table 2-3 describing TBD by MEL for QLs at the top seems fine. I don't think we can complete analyses by end of May especially if we have to put in time for testing and development. By end of June 2017 would be a better estimate.

If the oyster larvae test prove negative, do we still need to analyze the shells?

Gerald Dodo

Supervisory Chemist

DWCO

USEPA Region 10 Laboratory

7411 Beach Dr. East

Port Orchard, WA 98366

Phone: (360) 871-8728

FAX: 360-871-8748

From: Shephard, Burt

Sent: Wednesday, April 05, 2017 5:23 PM

To: Dodo, Gerald <Dodo.Gerald@epa.gov>; Bachman, Brenda <bachman.brenda@epa.gov>; Brown, Donald M. <Brown.DonaldM@epa.gov>; Adams, Katie <Adams.Katie@epa.gov>; Wu, Raymond <Wu.Raymond@epa.gov>

Cc: Young, Margo <Young.Margo@epa.gov>

Subject: RE: Draft Discovery Bay QAPP

Gerald,

The shell digestion procedure was based on my recollection of having to digest shells early in my career when I actually did analytical chemistry work on metals. Bet you didn't know I have a chemistry degree tucked away in my background, did you?

Anyway, I suspect there are some published methods in the literature from which I took the digestion procedure, although I don't remember a standard method for it. A google search would probably identify a literature citation which could be used as the basis for a method.

Regarding the analysis itself, one way around interferences was by using the old APDC – MIBK extraction procedure on the digestate. I have no idea if people still use that method or not.

Best regards,

Burt Shephard
Risk Evaluation Unit
Office of Environmental Review and Assessment (OERA-095)
U.S. Environmental Protection Agency, Region 10
1200 6th Avenue
Seattle, WA 98101

Telephone: (206) 553-6359

Fax: (206) 553-0119

e-mail: Shephard.Burt@epa.gov

"Facts are stubborn things, but statistics are more pliable"
- Mark Twain

From: Dodo, Gerald

Sent: Wednesday, April 05, 2017 11:18 AM

To: Bachman, Brenda <bachman.brenda@epa.gov>; Brown, Donald M.
<Brown.DonaldM@epa.gov>; Adams, Katie <Adams.Katie@epa.gov>; Wu, Raymond
<Wu.Raymond@epa.gov>; Shephard, Burt <Shephard.Burt@epa.gov>

Cc: Young, Margo <Young.Margo@epa.gov>

Subject: RE: Draft Discovery Bay QAPP

Does anyone know where the shell processing and digestion procedure described in the QAPP comes from? If it's something that NOAA or another agency uses then perhaps we can just adopt it and cite in the QAPP.

Gerald Dodo
Supervisory Chemist
DWCO
USEPA Region 10 Laboratory
7411 Beach Dr. East
Port Orchard, WA 98366

Phone: (360) 871-8728

FAX: 360-871-8748

From: Bachman, Brenda

Sent: Wednesday, April 05, 2017 11:02 AM

To: Brown, Donald M. <Brown.DonaldM@epa.gov>; Adams, Katie <Adams.Katie@epa.gov>; Wu, Raymond <Wu.Raymond@epa.gov>; Shephard, Burt <Shephard.Burt@epa.gov>; Dodo, Gerald <Dodo.Gerald@epa.gov>

Cc: Young, Margo <Young.Margo@epa.gov>

Subject: RE: Draft Discovery Bay QAPP

All,

A few of my changes didn't get captured in the version provided. In particular, removal of the sediment collection tasks in section 2.3, removal of reference to Table 2-4, and addition of appendices B-C are still needed. We are aware and will take care of these items...no need to comment. In addition, Burt now has additional text for the toxicity testing based on the method development completed a few weeks ago and that can be added. He can let you know which sections will contain that info.

One need from MEL includes a general statement that shell digestion method development will occur and that the QAPP will be amended to include it once completed.

Thanks, Brenda

From: Brown, Donald M.

Sent: Wednesday, April 05, 2017 9:00 AM

To: Bachman, Brenda <bachman.brenda@epa.gov>

Cc: Wu, Raymond <Wu.Raymond@epa.gov>; Shephard, Burt <Shephard.Burt@epa.gov>

Subject: Draft Discovery Bay QAPP

Brenda,

Attached is the "Track Changes" version of the document. There are still a couple of questions to answer and some sections that need additional descriptions, such as the project management section where some roles and responsibilities will need to be added to Burt's role and the field team lead position. I'll be interested to see MEL's and Raymond's suggestions to see where additional edits may be warranted.

Thanks,

Donald M. Brown, Regional Quality Assurance Manager
Office of Environmental Review and Assessment
USEPA Region 10
1200 6th Avenue Suite 900, OERA-140
Seattle WA 98101
Voice: (206) 553-0717
Brown.DonaldM@epa.gov (Please note the "M")